

# Transitioning a Postgraduate Medical Education Program to a Virtual Platform: Best Practices and Lessons Learned

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**Abstract:** Learners and faculty across three cohorts in a Master's of Medical Education program engaged in a structured reflection process to understand how they experienced the divergent educational approaches that resulted from COVID-19. These experiences included in-person, emergency remote (hybrid), and virtual. We utilized the Describe, Examine, and Articulate Learning (DEAL) model to guide the learners' reflection processes and our analysis. We summarize the reflections, review emerging themes, and highlight key lessons learned.

*Keywords:* virtual education, hybrid learning, learner engagement, guided reflection, COVID-19

In 2013, Cleveland State University and Cleveland Clinic began offering the Master of Education in Health Professions Education (MEHPE) program to meet the professional development needs of clinical and non-clinical educators. The initial educational experience was entirely in person until March 2020, when national COVID-19 lockdowns forced the program to swiftly transition to virtual delivery. Since then, the program has been offered in a fully virtual setting. The purpose of this structured reflection was to glean insight from the guided personal reflections of learners and faculty from three MEPHE cohorts: in-person, emergency remote (hybrid), and virtual. Our aim was to understand the differences in individual experiences across each modality. The questions that guided our structured reflection were the following:

- How did participants from different cohorts experience the MEHPE program and how did these experiences differ based on their learning milieu?
- What did the participants identify as the affordances and constraints of their learning environment?

## MEPHE Program and Transition to Emergency Remote Learning

The Cleveland State University/Cleveland Clinic Master of Education in Health Professions Education (MEHPE) program provides the knowledge and skills medical and health professionals need to build expertise in the design, development, implementation, and evaluation of educational programming. This two-year cohort-based program is taught by Cleveland Clinic and Cleveland State University faculty and includes courses in (a) learning theory and instruction, (b) learner assessment and program evaluation, and (c) scholarship and technology in health professions education, as well as two capstone courses.

Until 2020, the program was held weekly in person at Cleveland Clinic's main campus in downtown Cleveland. In March 2020, the COVID-19 pandemic forced academic institutions across the globe, including Cleveland Clinic, to transition to remote operations (Sahu et al., 2022). Like other educational programs, the MEPHE program's objective in 2020 was to ensure learners had temporary and reliable access to virtual instruction and instructional materials. This sudden transition, labeled emergency remote teaching (ERT), resulted in a rapid transition to fully virtual learning without regard to evidence of effectiveness (Hodges et al., 2020). Varied experiences were reported. For example, Cowan et al. (2022) used surveys to assess the experience of their medical students during this transition and noted that learners preferred the convenience and technological affordances of virtual formats while they simultaneously desired in-person interactions and face-to-face learning. Specifically, for more dynamic learning such as case-based learning sessions and anatomy labs, a strong preference for in-person learning was reported ("by at least a ratio of 2:1") (Cowan et al. 2022, p. 384).

After reflecting on some of the affordances, such as sustainability and inclusivity, the MEHPE program directors and stakeholders opted to continue virtually. From 2021, the program has been offered in a purely virtual format that includes asynchronous and synchronous online learning experiences. While appreciating major trends from the quantitative data from Cowen et al, we aimed to obtain more insight into the variations and reasoning behind the experiences of both learners and educators by employing a qualitative approach using structured guided reflection. Given the importance of ongoing evaluation and the fact that graduates and professors involved in this program were particularly invested in reflecting on their education experience, we opted to employ a structured guided reflection to gain further insight into how the varied learning environments impacted the understood experiences among each of the unique cohorts.

## Methods

A structured reflection process was employed to compare experiences among three unique cohorts, in-person, hybrid, and virtual, using a guided reflection tool called Describe, Examine, and Articulate Learning (DEAL) (Ash & Clayton, 2009). This model focuses on facilitating and collecting reflections of learning experiences to maximize student learning and assist instructors in the design of effective instruction (Ash & Clayton, 2009).

The authors developed a one-page survey based on the DEAL model of guided reflection. It included 13 open-ended questions aimed at understanding the impact of the varied learning environments on educators and learners. As this was a preliminary study requiring guided reflections, we contacted current students and alumni who had expressed interest in understanding the impact of ERT and as well as an interest in furthering their program evaluation skills. We sent email invitations to 10 students and 7 agreed to participate. This guided reflection sample included learners (n=7; from in-person cohort (n=1), ERT, or hybrid cohort (n=3), and all-virtual cohort (n=3)), and professors (n =2). The questionnaires were returned via email to the primary author. Responses were de-identified for confidentiality and compiled into a single document, organized by question. Each of the authors independently coded the collected responses. As a group, all authors then reviewed the individual coding, identified common words and phrases, and mapped these to overarching themes. We then identified whether these themes were present in one, some, or all three of the cohort responses. Selected quotations from the data are presented to support the major themes that emerged.

## Results

All the learners identified perceived benefits and drawbacks of their experiences, regardless of their learning milieu. For example, participants who experienced ERT including the in-person learning environment reported a negative perception of the classroom activities and social cohesion in the virtual setting. In both the in-person and hybrid cohorts, professors used instructional approaches that required physical learner interactions. In all cohorts, groups were provided opportunities in class to engage in small-group projects which they found productive for learning, however with certain caveats. For instance, in a series of classes related to teaching methods students were asked to design and implement a learning session based on various approaches (e.g., debate or fishbowl), the learners perceived more flexibility for the in-person approaches, whereas the virtual cohort had the opportunity to familiarize themselves with online tools to increase engagement.

The shift to remote learning negated the in-person engagement and changed how learners interacted. Respondents identified challenges when attending classes in the virtual environment. These challenges are reflected in the following quotes. A hybrid learner explained, “I can imagine that the teaching methods portion would be more effective in person because some teaching methods require a physicality that can’t be duplicated virtually.” A learner from the virtual cohort identified how this modality impacted their interactions, “virtual takes away from non-verbal learning and instructional methods and is more dependent on that verbal/screen interaction.” Despite the challenges, respondents were able to identify the benefits of a virtual learning environment that made participation and connection on group projects easier. One hybrid learner stated, “I think that virtual learning gives people who are more introverted a greater chance to participate via chat versus speaking up.” Virtual learners appreciated the ability to be at home with their family or to participate remotely if they were traveling for work or vacation. Finally, the virtual environment allowed for the inclusion of individuals who lived outside of the program’s home state.

While several themes were identified in the analysis of the 9 participant reflections, the most notable included (a) participants across the cohorts had varying experiences impacted by the virtual environment, and (b) participants perceived impact to social learning and engagement as a result of the move to a virtual learning environment.

### **Theme 1: ERT impacted the perceptions of the virtual learning environment**

The first theme highlighted the differential experiences across the learning environments. The respondents who had experienced ERT (i.e. those in the hybrid cohort), were most notable. This cohort experienced the uncertainty associated with the global COVID-19 lockdown of all institutions. Learners experienced isolation from the cohort and distance from the learning experience after the program moved to a virtual setting. They also experienced uncertainty about how the program would proceed and how a permanent move to a virtual learning environment would impact their experiences. One hybrid learner expressed it this way: “I feel the move from in-person learning to virtual learning was a bit of a letdown. I felt alone sitting at my desk at home even though we were all together on screen.” This cohort, over the course of seven months of in-person classes, had developed strong relationships with one another. One participant indicated the move to “a virtual format had a huge impact. When COVID hit and we were sent home...I missed seeing my colleagues in person after that.”

This theme was also reflected in one professor's response,

*I feel it took me longer to establish connections and rapport with students in the virtual setting compared to in-person. Also, the nature of these relationships was different. While I did form meaningful connections with some students in the fully virtual setting, it appears that I could not do so with as many as I had with previous cohorts with face-to-face interactions.*

Learners in the fully virtual learning environment had positive perceptions of their learning experiences and identified ways they were able to connect more easily. This cohort of learners did not have the in-person experience and were not aware of how the program was implemented prior to COVID-19. Despite not seeing everyone in person, the group was able to find alternative ways to engage and develop connections. Unsurprisingly, the participant from the fully face-to-face cohort reported no disruption in their learning experiences as digital platforms were used to augment rather than replace the learning experience.

## **Theme 2: Relationship development and socialization was impacted by the virtual environment**

The second theme focused on the impact of the learning environment on the socialization process. Faculty in the program, who had taught in all three settings, identified ways in which the opportunity for socialization and the development of communities of practice were changed. Faculty perceived the virtual milieu as not providing the opportunity for interactions before and after class as well as during the breaks. One faculty reflected, “informal socialization does not occur anymore. I’d argue that there is no informal socialization during class time, at least that I’m aware of. This impacts relationship building, both for students and faculty.”

Participants from the hybrid experience expressed they felt like they were missing the interactions with peers. Participants from the fully virtual experience acknowledged they did not have the same level of socialization as the prior cohorts but found ways to connect with their peers. For example, one participant explained,

*I think the social aspect of MEHPE is an important one since the cohort does most of the courses together throughout the two years. Despite being in a virtual environment, between informal social discussions during class (or in our offline group WhatsApp) we got to know each other quite well as individuals. This gave us a better appreciation of everyone’s perspective. Furthermore, by working and discussing in small groups, as well as responding to each other’s Blackboard posts allowed this learning to continue to build even between sessions and gave us a first-hand experience of Vygotsky’s zone of proximal learning.*

There is an element of socialization in all group-oriented learning environments. Some of the socialization is informal and occurs when learners engage with each other before and after classes. This is also true with learner engagement with faculty. The fully virtual cohort did not have prior experiences to compare, however, they found new ways to connect with their peers.

## Discussion

In this structured reflection, we found that participants generally had positive learning experiences irrespective of their learning modality. Despite challenges, all participants were able to identify some benefits of a virtual environment including flexibility and convenience. Specifically, there was ease in scheduling and reduced commuting. Learners maintained a better work/life balance. They reported feeling more present for their families even when participating in synchronous classes while at home. Additionally, some even noted that the features found in the virtual platform (e.g., chat feature) enabled easier communication. From a programmatic standpoint, the program expanded student recruitment to a larger geographical area and the subsequent cohort included learners from other states. A recent systemic review analyzing remote learning developments in postgraduate medical education in response to the pandemic identified a similar theme, noting that “a number of authors commented on how remote learning provided flexibility, removing the barriers of time and the hassle of travel associated with in-person participation” (Khamees et al., 2022, p. 479).

There were several identified constraints of the virtual learning environment and more specifically, the overall experience of ERT. Learners from the hybrid cohort reported they felt more personally disconnected. These feelings may have been exacerbated by the stress of working in healthcare during a global pandemic. The move to fully virtual programs significantly shifts the way learners and faculty interact and decreases interpersonal engagement and opportunities for socialization. The lack of non-verbal cues negatively affects learners when presenting virtually. The relationships may not extend beyond the classroom environment and subsequent collaborations may be diminished resulting in learners’ feeling socially isolated (Byram et al., 2022). These challenges can be mitigated using group chats for connecting socially (e.g., WhatsApp), in-person social events, and interactive learning techniques. In addition, a cohort model allows for longer-term peer engagement and may have a protective effect on socialization.

With the growing prevalence of virtual and/or hybrid learning opportunities, it is necessary for instructors to better understand the ways in which these types of environments are successful and where they can be improved. There is no consensus from a pedagogical or andragogical standpoint regarding whether one approach is superior to the others (Nguyen, 2015). The efficacy of virtual learning may be dependent on the content or the context (Pei & Wu, 2019). Still, other research showed evidence that a hybrid approach is best (Du et al., 2022; Khamees et al., 2023). For professions that rely heavily on social learning for professionalization or require in-person practice, a hybrid environment is optimal.

Programs designed to be exclusively virtual requires both learners and facilitators to have the technological fluency to effectively navigate learning platforms and coursework. As the reflections illustrate, learners who have never experienced in-person activities will embrace the virtual experience if it is facilitated effectively. It is important to acknowledge that learners and educators might feel isolated (Khamees et al., 2023) and this might be mitigated by requiring learners to come to campus once or twice a semester. Educators and learners who adopt an orientation of adaptation and openness to new experiences may have better outcomes. Our structured reflection provides insight into the question of the efficacy of hybrid and virtual modalities in health professions education. However, there are limitations. We draw upon learners from one HPE program, and the participants who elected to participate may have been motivated by either their enthusiasm or dissatisfaction with virtual and hybrid learning.

## Conclusion

As institutions move beyond the pandemic, many programs, including ours, have elected to remain in a virtual environment. Despite a lack of consensus in the research, the MEHPE program course designers decided the benefits outweighed the challenges to continue with a fully virtual program design. Careful planning and attention to student experience are essential to any program's continued success. Broadly speaking, educators who can adapt their content successfully to an online platform will set their students and programs up for success. Additionally, health professions educators are in a position to help the field better understand the efficacy of virtual learning. This is an important area for further exploration as currently there is not a consensus regarding how such approaches impact learner outcomes. While the virtual learning environment poses some constraints, educators who adopt a reflective practice that allows for insight into their current practice can guide their future practice enact Dewey's philosophy: "We do not learn from experience. We learn from reflecting on experience" (Lagueux, 2021, p. 3).

## References

- Ash, S. L., & Clayton, P. H. (2009). Generating, deepening, and documenting learning: The power of critical reflection in applied learning. *Journal of Applied Learning in Higher Education*, 1(1), 25-48. Retrieved from <https://scholarworks.iupui.edu/items/5f06a791-b5c1-4da2-95c7-120df70f5a65>
- Byram, J. N., Frankel, R. M., Isaacson, J. H., & Mehta, N. (2022). The impact of COVID-19 on professional identity. *The Clinical Teacher*, 19(3), 205-212. <https://doi.org/10.1111/tct.13467>
- Cowan, E., Altschaf, B., Foertsch, J., Barnes, D., Lasarev, M., & Pelley, E. (2022). A new normal: Assessment outcomes and recommendations for virtual versus in-person curricula in post-COVID-19 times. *Medical Science Educator*, 32(2), 379-387. <https://doi.org/10.1007/s40670-022-01534-9>
- Du, L., Zhao, L., Xu, T., Wang, Y., Zu, W., Huang, X., Nie, W., & Wang, L. (2022). Blended learning vs traditional teaching: The potential of a novel teaching strategy in nursing education-a systematic review and meta-analysis. *Nurse Education in Practice*, 63, 103354. <https://doi.org/10.1016/j.nepr.2022.103354>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review*. Retrieved from <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Khamees, D., Peterson, W., Patricio, M., Pawlikowska, T., Commissaris, C., Austin, A., Davis, M., Spadafore, M., Griffith, M., Hider, A., Pawlik, C., Stojan, J., Grafton-Clarke, C., Uraiby, H., Thammasitboon, S., Gordon, M., & Daniel, M. (2022). Remote learning developments in postgraduate medical education in response to the COVID-19 pandemic - A BEME systematic review: BEME Guide No. 71. *Medical Teacher*, 44(5), 466-485. <https://doi.org/10.1080/0142159X.2022.2040732>
- Lagueux, R. C. (2021). A spurious John Dewey quotation on reflection. *Academia Letters*. <https://doi.org/10.20935/AL363>
- Nguyen, T. (2015). The effectiveness of online learning: Beyond no significant difference and future horizons. *Journal of online learning and teaching*, 11(2), 309-319.
- Pei, L., & Wu, H. (2019) Does online learning work better than offline learning in undergraduate medical education? A systematic review and meta-analysis. *Medical Education Online*, 24(1), 1666538, <https://doi.org/10.1080/10872981.2019.1666538>
- Sahu, P. K., Dalcik, H., Dalcik, C., Gupta, M. M., Chattu, V. K., & Umakanthan, S. (2022). Best practices for effective implementation of online teaching and learning in medical and health professions education: During COVID-19 and beyond. *AIMS Public Health*, 9(2), 278-292. <https://doi.org/10.3934/publichealth.2022019>